REMARKS

This is in response to the Office Action mailed on March 20, 2007. Claims 1-26 were pending in the application, and the Examiner rejected all claims. With this amendment, claims 1, 4, 8, 10-15, and 17-26 are amended, claims 7, 9 and 16 are canceled, and the remaining claims are unchanged in the application.

On page 2 of the Office Action, the Examiner objected to the drawings. New drawings are submitted herewith, and applicant thus submits that the drawings are in proper form.

On page 4 of the Office Action, the Examiner rejected claims 1-26 under 35 U.S.C. §112, first paragraph, indicating that the specification and drawings did not specifically set forth, verbatim, a number of the terms in independent claims 1 and 15. In response, independent claim 1 has been amended so that "dimensional model generation system" now reads "a model service system". This is specifically set forth throughout the specification such as, for instance, in FIG. 4 and the related text.

In addition, claim 1 has been amended such that "a data navigation system" now reads "a navigation service". This is also set out at numerous places in the specification such as, for instance, in FIGS. 4, 27, 32 and 33.

Similarly, independent claim 15 has been amended such that "a design component" now reads "a system". This is discussed, for instance, by system 234 in FIG. 4 and on page 18, line 23-page 19, line 20. Similarly, claim 15 has been amended such that "a runtime component" now reads "a navigation service". Again, the navigation service is set out in the specification as discussed above.

On page 5 of the Office Action, the Examiner rejected claims 15-26 under 35 U.S.C. §112, second paragraph based on the term "an architecture supporting analytical processing". The Examiner stated that it was unclear whether this meant a system or a method. Claims 15-26 have been amended to include "a system".

The Examiner also objected to the use of the term "navigation provider" in claim 9. However, Applicant traverses this rejection. The term "navigation provider" is specifically

discussed on page 57, line 9, page 58, lines 2-10, and page 59, line 14 to page 61, line 17. Similarly, navigation providers are shown in FIG. 30, for example. Thus, Applicant submits that the term "navigation provider" is well supported by the specification.

On pages 5 and 6 of the Office Action, the Examiner rejected claims 1-26 under 35 U.S.C. §101. The Examiner indicated that independent claims 1 and 15 appear to be directed to software per se. Applicant respectfully traverses the Examiner's rejection. Independent claim 1 is specifically directed to "a computer implemented data processing system" and then sets out the various portions of the system. Similarly, independent claim 1 provides a tangible and useful result as an output. The system components specifically claim that they receive inputs and generate outputs. For instance, claim 1 claims "a model service system configured to receive, as an input, an object model description...". Similarly, the entity generator in claim 1 generates another object model, and the navigation service identifies a data navigation path "and output[s] the data navigation path for navigation by a user from a first data set to a related second data set...". Thus, Applicant submits that independent claim 1 is specifically drawn to patentable subject matter.

Similarly, independent claim 15 is now specifically drawn to "a system" and includes system components that are specifically configured to receive inputs and generate outputs. For instance, the first component is a system that is configured "to receive a transactional object model description...and generate a dimensional model and an analytical programming object model...". Similarly, the second component is "a navigation service configured to automatically identify navigable paths between data sets in the business data in the system and output the paths for navigation by a user...". Thus, the system specifically claims concrete components that receive inputs and generate outputs and thus, Applicant submits that the claims are specifically drawn to patentable subject matter.

On page 7 of the Office Action, the Examiner provisionally rejected claims 15-26 based on non-statutory, obviousness-type double patenting. Because the rejection is only provisional, Applicant will respond to the rejection when it becomes actual.

On pages 8-11 of the Office Action, the Examiner rejected claims 1-26 under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 7,007,729 to Chen in view of US Patent No. 7,185,016 to Rasmussen. Of the rejected claims, claims 1 and 15 are independent claims. Applicant respectfully traverses the Examiner's rejection.

In business data processing systems, there is often a transactional object model that is used in conducting transactions and acquiring business data. There is also commonly an analytical programming model that is used for analyzing and reporting that business data. The two object models are often different, and may even require knowledge of two different programming languages, to use them. In prior systems, there was no ability to view the data sets, as they were acquired by the transactional object model, when reviewing data reported by the analytical programming object model. The navigation paths from one object model to the other object model were not created during processing.

In contrast, the present system provides a navigation service by which the navigation paths from one object model to the other object model are preserved and provided to a user of a reporting system, such that the user can drill down into, or drill across into, the transactional data even though the user is viewing a report generated by the analytical programming object model (the reporting system).

In one embodiment, this is accomplished in a highly extensible and efficient manner. Navigation providers provide different types of navigable paths among the various data sets. The navigation provides for new types of navigable paths simply need to register with the metadata service. Then, when a navigation service request is received by the navigation service, it is passed along to the registered navigation providers, and each of them access a metadata store to identify the various types of navigation paths provided by the navigation providers. The paths are then returned to the user such that the user can navigate among various data sets using the various types of navigation paths identified, given those data sets. This is highly efficient and extensible, because whenever a new type of navigation path is enabled, a separate navigation provider simply needs to register with the navigation service and new navigation service requests will be passed on to the new navigation provider, as desired. This eliminates the need to rewrite

any of the navigation service layer or the metadata store, in any way, when a new navigation path type is added to the system.

Of course, neither of the references either alone or in combination even suggest this, much less teach it as required by 35 U.S.C. §103(a). The Examiner acknowledges that Chen fails to teach or suggest this feature. The Examiner cited Rasmussen at column 11 as teaching this feature. However, there is no such teaching in Rasmussen. Rasmussen does not teach or suggest any type of separate navigation service or navigation providers that can register with the navigation service to provide different types of navigation paths. This simply does not exist in Rasmussen. Instead, Rasmussen teaches navigating between entities of different levels in a single model (metadata model 15), but the navigation paths are integral with the process of forming the metadata model 15. This can be seen at columns 36-39 of Rasmussen. There is no teaching, or suggestion, or even hint, that data navigation paths are provided by separate data navigation providers by registering with a navigation service, in the efficient and extensible way set out in independent claim 1. Therefore, Applicant submits that the references fail to teach or suggest independent claim 1. Reconsideration and allowance of the claim are respectfully requested.

Similarly, independent claim 15 specifically claims that the navigation service identifies navigation paths among data sets in the transactional object model, the dimensional model, and the analytical programming model." The references fail to teach or suggest this feature.

As with independent claim 1, the Examiner has acknowledged that Chen does not teach or suggest such a navigation service. To meet this limitation, the Examiner cited columns 36-38 of Rasmussen. However, Rasmussen simply fails to teach or suggest this feature. In generating the metadata model 15 from the underlying data, Rasmussen sets up a hierarchy of folders that identifys a hierarchy of entities within the model. The user can navigate these folders, to move from one entity to another, within the same model, in order to select various entities for which the user desires to generate a report. This is specifically set out at column 37, line 60-column 38, line 2. This is the type of navigation being discussed by Rasmussen. The

user can simply move from entity to entity, within the same model (metadata model 15) in order to select entities for reporting. This is simply not the same as allowing the user to move among different data sets, in different models (the transactional model, the dimensional model and the analytical programming model) to view, for instance, underlying transactional data that gave rise to a reported data set. This is simply neither taught nor suggested by Rasmussen, and the navigation set out in Rasmussen is something completely different.

Indeed, the fact that Rasmussen is only moving from entity to entity within a single model (metadata model 15) is specifically set out at column 35, line 67-column 36, line 2 where Rasmussen states "a drill relationship 550 defines a navigation between levels in the metadata model 15." This is also shown in FIG. 38 of Rasmussen. Therefore, it is clear that Rasmussen simply fails to teach or suggest the navigation service set out in independent claim 15.

In conclusion, Applicant submits that the claims are in proper form, that they are fully supported by the specification and drawn to patentable subject matter. Applicant further respectfully submits that independent claims 1 and 15 are allowable over the references cited by the Examiner. Applicant further submits that dependent claims 2-6, 8, 10-14, and 17-26, which depend directly or ultimately from the independent claims, are allowable as well. Reconsideration and allowance of claims 1-6, 8, 10-15 and 17-26 are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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